



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Subsidiary Level and Advanced Level

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GEOGRAPHY

9696/01

Paper 1 Core Geography

May/June 2007

3 hours

Additional Materials: Answer Booklet/Paper

READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A

Answer **all** questions.

Section B

Answer **one** question.

Section C

Answer **one** question.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

All the figures referred to in the questions are contained in the Insert.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **5** printed pages, **3** blank pages and **1** Insert.



* 1 3 5 7 3 8 5 7 2 2 *

Section A

Answer **all** the questions in this section. All questions carry 10 marks.

Hydrology and fluvial geomorphology

- 1 Fig. 1 shows the flows and stores of water associated with a river channel and its adjoining slopes.
- (a) Identify the flows marked **A** and **B** on Fig. 1. [2]
- (b) Briefly describe interception storage. [3]
- (c) Using Fig. 1, explain how water from surface storage reaches groundwater storage. [5]

Atmosphere and weather

- 2 Fig. 2 shows energy exchanges at the earth's surface during the day and night.
- (a) Give **two** differences in the effects of radiation energy between day and night. [4]
- (b) Explain how the differences in energy exchanges between day and night occur. [6]

Rocks and weathering

- 3 Fig. 3 shows some factors affecting processes operating on a slope.
- (a) Name and briefly describe the **two** slope profiles marked **A** and **B** on Fig. 3. [4]
- (b) Explain how the factors shown in the diagram can affect the shape of the slope. [6]

Population change

- 4 Fig. 4 shows the density of population by region for Chile, an LEDC in Latin America, in 2002.
- (a) Name **one** region where a density of over 79.9 persons per square kilometre was recorded. [1]
- (b) Describe the overall pattern of population density within Chile shown in Fig. 4. [4]
- (c) Using examples, explain why population density is a poor indicator of overpopulation. [5]

Settlement dynamics

5 Fig. 5 shows two processes occurring within a large urban area in an MEDC.

- (a) Name the process shown by the dotted arrow on Fig. 5. [1]
- (b) Explain why the filtering (lower income groups moving into better housing) shown in Fig. 5 may occur. [4]
- (c) Under what circumstances may newly-built housing be located **within** the existing urban area rather than on its outer edge? Support your answer from a city or cities you have studied. [5]

Section B: The Physical Core

Answer **one** question from this section. All questions carry 25 marks.

Hydrology and fluvial geomorphology

- 6 (a) (i) Define the terms *velocity* and *discharge* as they apply to river channels. [4]
- (ii) Briefly describe helicoidal flow. [3]
- (b) With the use of diagrams, describe and explain the formation of:
- (i) waterfalls;
- (ii) gorges. [8]
- (c) To what extent can human activities affect river channels? [10]

Atmosphere and weather

- 7 (a) (i) Define the terms *adiabatic lapse rate* and *environmental lapse rate*. [4]
- (ii) Briefly describe what is meant by the term *frost*. [3]
- (b) Using a labelled diagram, describe and explain the distribution of the world's main wind belts. [8]
- (c) Explain the extent to which the climate in urban areas differs from that in the surrounding countryside. [10]

Rocks and weathering

- 8 (a) (i) Define the terms *rock slide* and *soil creep*. [4]
- (ii) Briefly describe the effects of soil creep on the shape of a slope. [3]
- (b) Describe the characteristics of granite rocks. Explain the influence of **one** of these characteristics on the weathering of granite. [8]
- (c) With the help of diagrams, explain the processes that lead to the formation of landforms at convergent plate margins. [10]

Section C: The Human Core

Answer **one** question from this section. All questions carry 25 marks.

Population change

- 9 (a) With the help of an age/sex pyramid, explain the meaning of the terms *dependency* and *dependency ratio*. [7]
- (b) Explain the implications of an ageing population for government spending. [8]
- (c) Japan is an MEDC with an ageing population. Japan's National Institute of Population has predicted that the population will be extinct (zero) by the year 3387.
To what extent do you agree that such predictions are of limited value? [10]

Population change

- 10 Fig. 6 shows the possible demographic impacts of educating girls.
- (a) Describe how infant mortality may be reduced as girls' education improves. [7]
- (b) Using examples, explain **at least two** different ways that a country's government may attempt to educate young people about birth control. [8]
- (c) To what extent is Fig. 6 helpful in understanding population change in **one** country you have studied? [10]

Settlement dynamics

- 11 (a) (i) Give the meaning of the term *sphere of influence* in settlement geography. [2]
- (ii) Describe **two** ways to find the extent of a town's sphere of influence. [5]
- (b) With reference to **one or more** settlements, show how an understanding of threshold may help to explain which shops and services are located there. [8]
- (c) Should settlement hierarchy be regarded as fixed or as changing? Support your answer with examples. [10]

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Copyright Acknowledgements:

Question 4 Fig. 4 © Michael Witherick, Sue Warn; *Population and Migration: Contemporary Case Studies*; Philip Allan Updates; 2004.
Question 5 Fig. 5 © Garrett Nagle, Kris Spencer; *Changing Settlements*; Nelson Thornes; 2004.
Question 10 Fig. 6 © UNICEF, 1999.

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